

WHAT IS CLAIMED IS:

1. A source control system for a process control system, comprising:
 - a processor in a process control system;
 - a database accessible by said processor to store information associated with an object under source control to be checked-out;
 - a check-out function operable on said processor to check-out said object, to use said information to determine whether any dependent objects exist, and to automatically check-out said existing dependent objects.
2. The system according to claim 1, further comprising:
 - a propagation function operable on said processor to propagate changes made to said object to said existing dependent objects, when said object is saved.
3. The system according to claim 1, wherein said stored information includes a reference to a parent object.
4. The system according to claim 1, wherein said stored information is at least one selected from the group consisting of: a name, a version number, a type and a status.
5. A method of automatic check-out for a source control system in a process control system, comprising:
 - storing information associated with an object;
 - receiving a request from a user to check-out said object;
 - determining whether any dependent objects of said object exist based on said information;
 - automatically checking-out said existing dependent objects when said object is checked-out; and

providing a status to said user.

6. The method according to claim 5, further comprising:
sorting said existing dependent objects so that parents precede children.
7. The method according to claim 5, wherein one of said existing dependent objects is a derivation child of said object.
8. The method according to claim 7, further comprising:
automatically checking-out a derivation child only if a derivation child is checked-in.
9. The method according to claim 7, further comprising:
automatically checking-out any children of said object, when said object is a user-defined template.
10. The method according to claim 7, further comprising:
automatically checking-out any children of said children of said object, when said children are user-defined templates.
11. A data structure for automatic check-out, comprising:
a reference object name to identify said object to be checked-out;
a reference object type of said object; and
a reference type of said object;
wherein an automatic check-out function automatically checks-out dependent objects based on said reference type.
12. The data structure according to claim 11, further comprising a parent object.

13. The data structure according to claim 11, further comprising a parent version.
14. The data structure according to claim 11, wherein said reference object type is composite or basic.
15. The data structure according to claim 11, wherein said reference type is parent or contained child.
16. A computer readable medium having executable instructions stored thereon to perform a method of determining object relationships when checking-in, said method comprising
 - determining whether an object to be checked-in has a first derivation parent;
 - adding a name and a version of said first derivation parent to a list of object relationships, if said object has said first derivation parent;
 - determining for each contained object that is contained in said object, whether said contained object has a second derivation parent, if said object does not have said first derivation parent; and
 - adding a name and a version of said second derivation parent to said list of object relationships, if said contained object has said second derivation parent;
 - providing said list of object relationships.
17. A computer readable medium having executable instructions stored thereon to perform a method of automatic check-out for a source control system in a process control system, said method comprising
 - storing information associated with an object;
 - receiving a request from a user to check-out said object;
 - determining whether any dependent objects of said object exist based on said information;

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automatically checking-out said existing dependent objects when said object is checked-out; and
providing a status to said user.